

### Amendments to the Claims

Please cancel claims 12-21 and 32-41 without prejudice. Please add new claims 42-62 as shown below in the Listing of Claims.

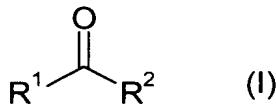
### Listing of Claims

1-41. Cancelled.

42. (New) A method for preparing an  $\alpha$ -hydroxycarboxylic acid, comprising:

- a) in a single reaction mixture, concurrently:
  - i) producing a cyanohydrin by combining an aldehyde or ketone with a cyanide donor in the presence of an oxynitrilase;
  - ii) converting said cyanohydrin to an  $\alpha$ -hydroxycarboxylic acid with a nitrilase;wherein said oxynitrilase and/or said nitrilase react in an enantioselective manner; and
- b) isolating said  $\alpha$ -hydroxycarboxylic amide from said reaction mixture.

43. (New) The method of claim 42, wherein said aldehyde or ketone is a compound of Formula I:



wherein:

$\text{R}^1$  is ( $\text{C}_1\text{-C}_8$ )-alkyl, ( $\text{C}_2\text{-C}_8$ )-alkenyl, ( $\text{C}_2\text{-C}_8$ )-alkinyl, ( $\text{C}_1\text{-C}_8$ )-alkoxyalkyl ( $\text{C}_3\text{-C}_8$ )-cycloalkyl, ( $\text{C}_6\text{-C}_{18}$ )-aryl, ( $\text{C}_7\text{-C}_{19}$ )-aralkyl, ( $\text{C}_3\text{-C}_{18}$ )-heteroaryl, ( $\text{C}_4\text{-C}_{19}$ )-heteroaralkyl, ( $(\text{C}_1\text{-C}_8\text{-alkyl})_{1-3}(\text{C}_3\text{-C}_8\text{-cycloalkyl})$ , ( $(\text{C}_1\text{-C}_8\text{-alkyl})_{1-3}(\text{C}_6\text{-C}_{18}\text{-aryl})$ , ( $(\text{C}_1\text{-C}_8\text{-alkyl})_{1-3}(\text{C}_3\text{-C}_{18}\text{-heteroaryl})$  and

$\text{R}^2$  is H, or  $\text{R}^1$ .

44. (New) The method of claim 43, wherein  $\text{R}^2$  is H.

45. (New) The method of claim 43, wherein R<sup>1</sup> is a (C<sub>1</sub>-C<sub>8</sub>)-alkyl.

46. (New) The method of claim 43, wherein R<sup>1</sup> is a (C<sub>6</sub>-C<sub>18</sub>)-aryl.

47. (New) The method of claim 43, wherein R<sup>1</sup> is a (C<sub>7</sub>-C<sub>19</sub>)-aralkyl or a (C<sub>3</sub>-C<sub>18</sub>)-heteroaryl.

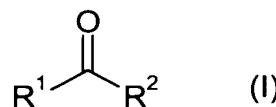
48. (New) The method of claim 43, wherein:

- said oxynitrilase is isolated from almond kernels or from a species selected from the group consisting of: Sorghum bicolor, Hevea brasiliensis, and Mannihot esculenta; and
- said nitrilase is from an organism selected from either a strain of Rhodococcus or Alcaligenes faecalis.

49. (New) A method for preparing an  $\alpha$ -hydroxycarboxylic amide, comprising:

- in a single reaction mixture, concurrently:
  - producing a cyanohydrin by combining an aldehyde or ketone with a cyanide donor in the presence of an oxynitrilase;
  - converting said cyanohydrin to said  $\alpha$ -hydroxycarboxylic amide with a nitrile hydratase;wherein said oxynitrilase and/or said nitrile hydratase react in an enantioselective manner;
- isolating said  $\alpha$ -hydroxycarboxylic amide from said reaction mixture.

50. (New) The method of claim 49, wherein said aldehyde or ketone is a compound of Formula I:



wherein:

$R^1$  is  $(C_1-C_8)$ -alkyl,  $(C_2-C_8)$ -alkenyl,  $(C_2-C_8)$ -alkinyl,  $(C_1-C_8)$ -alkoxyalkyl,  $(C_3-C_8)$ -cycloalkyl,  $(C_6-C_{18})$ -aryl,  $(C_7-C_{19})$ -aralkyl,  $(C_3-C_{18})$ -heteroaryl,  $(C_4-C_{19})$ -heteroaralkyl,  $((C_1-C_8)$ -alkyl)<sub>1-3</sub>- $(C_3-C_8)$ -cycloalkyl,  $((C_1-C_8)$ -alkyl)<sub>1-3</sub>- $(C_6-C_{18})$ -aryl,  $((C_1-C_8)$ -alkyl)<sub>1-3</sub>- $(C_3-C_{18})$ -heteroaryl and

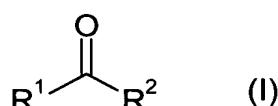
$R^2$  is H, or  $R^1$ .

51. (New) The method of claim 50, wherein  $R^2$  is H.
52. (New) The method of claim 50, wherein  $R^1$  is a  $(C_1-C_8)$ -alkyl.
53. (New) The method of claim 50, wherein  $R^1$  is a  $(C_6-C_{18})$ -aryl.
54. (New) The method of claim 50, wherein  $R^1$  is a  $(C_7-C_{19})$ -aralkyl or a  $(C_3-C_{18})$ -heteroaryl.
55. (New) The method of claim 50, wherein:
  - a) said oxynitrilase is isolated from almond kernels or from a species selected from the group consisting of: *Sorghum bicolor*, *Hevea brasiliensis*, and *Mannihot esculenta*; and
  - b) said nitrile hydratase is from an organism selected from the group consisting of: *Rhodococcus* spec., *Rhodococcus rhodochrous* and *Rhodococcus erythropolis*.
56. (New) A method for preparing an  $\alpha$ -hydroxycarboxylic acid, comprising:
  - a) in a single reaction mixture, concurrently:
    - i) producing a cyanohydrin by combining an aldehyde or ketone with a cyanide donor in the presence of an oxynitrilase;
    - ii) converting said cyanohydrin to an  $\alpha$ -hydroxycarboxylic amide with a nitrile hydratase;

iii) converting said  $\alpha$ -hydroxycarboxylic amide to said  $\alpha$ -hydroxycarboxylic acid with an amidase; wherein at least one of said oxynitrilase, said nitrile hydratase or said amidase react in an enantioselective manner;

b) isolating said  $\alpha$ -hydroxycarboxylic acid from said reaction mixture.

57. (New) The method of claim 56, wherein said aldehyde or ketone is a compound of Formula I:

 (I)

wherein:

$R^1$  is  $(C_1-C_8)$ -alkyl,  $(C_2-C_8)$ -alkenyl,  $(C_2-C_8)$ -alkinyl,  $(C_1-C_8)$ -alkoxyalkyl,  $(C_3-C_8)$ -cycloalkyl,  $(C_6-C_{18})$ -aryl,  $(C_7-C_{19})$ -aralkyl,  $(C_3-C_{18})$ -heteroaryl,  $(C_4-C_{19})$ -heteroaralkyl,  $((C_1-C_8)$ -alkyl) $_{1-3}$ -( $C_3-C_8$ )-cycloalkyl,  $((C_1-C_8)$ -alkyl) $_{1-3}$ -( $C_6-C_{18}$ )-aryl,  $((C_1-C_8)$ -alkyl) $_{1-3}$ -( $C_3-C_{18}$ )-heteroaryl and

$R^2$  is H, or  $R^1$ .

58. (New) The method of claim 57, wherein  $R^2$  is H.

59. (New) The method of claim 57, wherein  $R^1$  is a  $(C_1-C_8)$ -alkyl.

60. (New) The method of claim 57, wherein  $R^1$  is a  $(C_6-C_{18})$ -aryl.

61. (New) The method of claim 57, wherein  $R^1$  is a  $(C_7-C_{19})$ -aralkyl or a  $(C_3-C_{18})$ -heteroaryl.

62. (New) The method of claim 57, wherein:

- a) said oxynitrilase is isolated from almond kernels or from a species selected from the group consisting of: Sorghum bicolor, Hevea brasiliensis, and Manihot esculenta; and
- b) said nitrile hydratase is from an organism selected from the group consisting of: Rhodococcus spec., Rhodococcus rhodochrous and Rhodococcus erythropolis.